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THE

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The Thondakulam Elephant—May 1934.

By, A. F. M.

At Easter of this year, 1934, Mr. A. Wimbush, Chief Conservator of Forests and Mrs. Wimbush, were on tour through the Silent Valley Forest Reserve, a large, uninhabited tract of evergreen "rain forest" and grass land on the west of the Nilgiri Hills, half way down to Malabar proper. This is Nilgiri Game Association territory, so Mr. Wimbush, having no shooting license, was going about his work unarmed.

One day, descending a path in a part of the forest that is called Thondakulam* a solitary wild elephant was heard approaching from nearby on the left, evidently in a temper. The Chief Conservator led the party to the right for about 15 yards through undergrowth, so as to take cover behind two trees.

*Thondakulam.—(Situated west of the hill Kanjikumban 4513').

The elephant crossed the path, searching this way and that for the human intruders; and pushed his way into the undergrowth, towards the trees behind which Mr. and Mrs. Wimbush and other members of the staff were concealed. Their anxiety must have been intense, especially as Mrs. Wimbush was holding a little Australian terrier whose slightest sound would have given the show away, and some of the party would almost certainly have been killed or injured.

After a pause of about a minute in which the elephant was listening and testing the wind, he became impatient and made off down-hill along the jungle path at full split, screaming blue murder! and chasing a Forest Watcher who had created a diversion.

Mr. Hamid Khan, I.F.S.. a local executive officer, one of the party who went through this experience, made out an interim description of the animal, and shortly afterwards the Collector of Malabar notified it as a 'rogue'. He had misbehaved before; but the incidents had not been taken confirmed by any one in authority. The proclamation described him as "about 9 feet high, with tusks of normal shape and curve, protruding to a length of about 2 feet" —that is to say abnormally small tusks for his size.

Lieut. J. R. I. Platt of the Somerset Light Infantry and myself were permitted by the Collector of Malabar to to try to shoot the elephant. We joined forces with Mr. J. C, Wrench, I.F.S., the District Forest Officer, at Neelikel camp on the lower edge of the Silent Valley, on the 12th May, and were there or thereabouts until the 18th.

Before we arrived endeavours to locate the beast had been made; and were being pursued. Between the 12th and the 16th of May we walked through a great part of

the forests; and Moplah scouts were examining the paths for foot-marks, in other directions. On the 15th we heard that our elephant had been seen five days back near a village at the base of the hills, below Thondakulam block; and our messengers found also four days old traces of his having fed in an adjacent reed forest. On the 16th morning we went through the lower part of Thondakulam to see if by any chance he had come up again; but there were no recent marks. It is a marvellous piece of grass-land, stream, swamp and reedforest for an elephant to live in.

Mr. Platt and myself were having lunch in the forest about 2 O'clock on the 16th, and actually were preparing to give up the quest and to retire to Neelikal camp, when two highly delighted Moplahs, who had been scouting in Walghat direction, arrived. And we were still more delighted: for they had chanced upon a fight between what they said confidently was the rogue elephant, and a tusker of one of the usual herds that belong to the Walghat side forest. The latter was having the best of it.

The fight—according to their report—had broken off before they left. The solitary elephant had descended towards the slopes on the west whilst the herd had moved on into the main valley.

We set off to where the fight had occurred. We were not too optimistic as to the entire truth of the 'kubbah.' It seemed rather too good to be true! But it can be said now, (and it is noteworthy) that during the whole expedition no untrue or exaggerated information was produced. The Forest Ranger, Mr. Vasu, had made his dispositions very well.

About three miles north of Poochipara is Hill 4152 on the survey of India map. Between this and a small hill to the south-east of Valia Mullumalai (4084), there is

a saddle, and this had been the scene of the affray. As is perhaps well known, an elephant fight—until the critical stages when one tusker's strength is ebbing—is a slow unspectacular process of pushing and shoving, head to head. The idea is first to exhaust the adversary. Fights extend over whole days and over hundreds of acres. I have only seen the results of the final stages of a fight, when the victor's tusks come into play; the wounds tell a tale of torture and horror that one tries to forget.

About 4-45 P. M. we came to the slope down which our elephant was said to have retreated. Matters started to liven up; though I had told Mr. Platt not to expect too much of elephant shooting. Sometimes shooting a rogue is a very one-sided affair and when its huge bulk lies low, one feels ashamed of a facile victory. And, on the other hand, sometimes one gets charged, and that is thrilling enough! Descending we weie sheperded carefully by three Moplahs. Two were forest employees and one with a woolly beard, a cooly.

We had to go down a steep hill-side, carrying dense reed forest and an occasional tree The "reeds"—bamboos really—are about 25 feet high and one clump touches the next. Tracks were confused, and to my disappointment, it was unmistakably the herd itself that was still there. This made us stop and think! Alone, I should perhaps have given up, for the day; as apparently the information was not being confirmed by the situation encountered. But elephant herds are always entertaining, particularly when one is in congenial company, so we crept nearer, to see what the herd consisted of. The wind was absolutely in our favour and we were uphill too.

The herd was crashing about, eating reeds; so our descent of a wet slippery slope, strewn with debris, did

not disturb the elephants. (An elephant herd in its own forest does not seem to have much to worry about !)

From 20 yards off, peeping through the reeds, we made out to our right a small tusker and a big cow; below us 15 yards down the hill, a young calf; and behind it, 40 yards away, and difficult to distinguish, the big bull of the herd. He had such big tusks that he could not possibly be Mr. Wimbush's friend.

Wishing to see the big chap more distinctly, but hindered by the calf in the foreground, we skirted away, level to the left, then downwards as far as could be without giving the herd our wind. Mr. Platt and I had at this juncture a capable Moplah watcher called Moideen showing us the way, whilst a Mohammadan Forester, Mammad by name, stuck to my side throughout to help if he could. Moideen scouted a little ahead.

Now our luck began: the very same combat that the messengers had reported, was going on, thirty yards or so below us.

An elephant, bulky but with tusks not more than two feet long, and a not quite so big animal of the herd were the antagonists. The Big Noise of the herd was evidently leaving things to an Aide. The smaller elephant however, fighting from the higher ground, was having the best of it. Perhaps the other had been knocked about by the big bull earlier in the day: unmistakably he looked downcast. The tusk dimensions and size seemed to square fairly well with the description of our objective; and the general circumstances pointed to its being the rogue. After being pushed downhill a bit, he turned and tried to escape from the fight: we saw the other ram him effectively from behind. Mr. Platt having a broad-side view fired at his ear-hole.

He could see the result better than I could: afterwards he told me there had seemed to be no immediate effect, then the elephant sank slowly and rolled over on to his back. This seemed all right: when an elephant falls to a head-shot with an instant flop it is generally only stunned. Mr. Platt fired into his head again and I put in two body shots. He proved to be far from finished, and began rolling downhill, struggling and turning head over heels. Then whilst we reloaded he got on to his feet and scurried off (right-handed) out of sight.

The other fighter had retreated and the herd so far as I paid it any attention, seemed judging by sounds to have bunched together. I assumed they would go off peaceably downhill; but actually they charged us, or—more likely—fled up-wind and we were in their way. (We had no time to ask their intentions!). Just as we had been about to start prospecting towards the wounded one, a terrific screaming started suddenly, and a stampede began—as I have said in our direction. The wind had probably taken the smoke and our scent to the herd bull! ....Things got uncomfortable with a great suddenness. ....

Through the reeds ten yards away an elephant's head came, straight for us, and we took to our heels. Defence was out of the question. The thing was to get out of the path of the avalanche!.......get our wind clear of them. This would have been easier anywhere than in a reed forest! We were bunched, it happened, at the start, so Mr. Platt dodged off along the contour to our left while I aimed slightly uphill, the Forester ahead of me. Speaking for myself, it felt as if a crush of elephants was only inches behind; and exactly like the nightmare where one's limbs refuse to act! Yet at this infernal moment Mr. Platt extracted pleasure, he told me, from

the sight my very long legs, flying through the jungle! His verdict is that we did ten and three-fifths.

The herd passed and crashed away somewhere below us. The watchers and coolies had flitted uphill to safety with their usual enviable facility. Some were up trees. Immediately after the disappearance of the elephants, we heard another and a veritable avalanche. Perhaps the wounded elephant had dislodged some huge rock. Thinking we were clear, I whistled to Mr. Platt as I climbed a zig-zag elephant track; and listened anxiously, for I felt I had let him down in losing touch. His answering whistle came (he tells me he found difficulty in producing one!) and at that, a big elephant "materialised" thirty yards up the slope above me, cutting off the one line of retreat that we knew! I ducked and hastily retreated round a corner; then Mr. Platt joined the Forester and myself. (Forester Mammad had stuck to me manfully).

I whispered what the position was, and we made our way through troublesome reeds, up a steep slope, in a direction somewhat away from the intercepting elephant, who may very well have been the mother of the calf aforementioned; for as such, she was likely te be on the war-path. The crashings that approached us suggested that she was searching for us.

Again speaking for myself the whole affair had rather jangled my nerves, which are never of the best. Anyhow one *is* shaken when a palpable brain-shot does not "come-off". Sutherland's book tells us—what it is nicer to ignore when after rogues—that elephants occasionally carry on after receiving a head-shot subsequently *proved* to have been through the brain.

Others of the party joined us. We felt safe when we had scaled part way up a precipice. In doing this, a huge slab of rock came adrift and slithered past me ; and Mr. Platt had only just time to dodge it. My next anxiety was whether the crest above would prove scale-able : for it was now night-fall, and raining. Eventually we got to Neelikal camp at ten-thirty. Whiskey went down very well that night !

We made preparations next day for a pursuit that might involve sleeping the night in the jungle. Our actual search began about noon ; for the scene of the fracas is some way from Neelikal. Mr. Wrench came with us but to his disappointment we elected that he must go back to the base and be Officer in Charge of Supply and Transport.

The blood-trail did not help us very much. Near the last blood-trace that we could find there were tracks of all sizes ; and though our trackers tried every trail in every direction, no more blood could be seen. After four o'clock when we were quite at a loss and were giving up hope, we ourselves tried at Mr. Platt's suggestion a trail that the trackers had condemned ; and here luck recommenced ; Nearby, we came upon a "lane" of reeds laid flat, extending towards down-hill. Mr. Platt there-upon discovered some blood traces ! As we climbed down we realised that anything that had descended ought to have been killed : and hopes revived. Hope became certainty .... after descending a fifty-foot cliff, it could be seen that the falling elephant had carried away a big limb of a tree and had gone on over another small-er cliff. The cooly (he of the woolly face) beamed at us: there was the dead elephant in the reeds at the bottom of the slope. His path had taken him down about 300 feet.

We left his tusks for extraction on the next day, as it was getting late. (Our photographs also failed for lack of light). Moplahs say it gives you white leprosy to cut up dead elephants, so we do not ask them to do so !

The creature was heavily built and perhaps 8 feet in height ; but in his crumpled condition one might be somewhat out. The tusks were smaller than they had looked at first ; the right tusk protruding perhaps 21 or 22 inches, and the other a little smaller.

Mr. Platt's first shot had been as perfect as it could have been, central in the ear-hole. The fall had broken the elephant's neck and mangled his near fore-leg. He bore healed bullet wounds on the neck, and a number of long deep cuts made by tusks of elephant adversaries. He looked like an unpopular elephant.

In our pursuit, after leaving the Walghat path, and going down to the north face of the hill I did not at the time notice that we had ceased to be in Government forests, and that we were in fact in the forest of the Zamorin of Calicut. Arrangements were made for extracting and cleaning the tusks, which will be kept in the custody of the District Forest Officer until I have received an expression of his wishes in the matter from the Zamorin of Calicut. [He has, since, very kindly given both tusks to Mr. Platt, and wrote an extremely nice letter.]

During our stay in the Silent Valley we came across fresh diggings by a bear and a very few traces of bison and of sambhur. We saw few if any marks of wild dogs or of tiger or panther.

Mr. Platt and I were struck with the possibilities for trout in the main river if the elevation at the lower

end of the stretch, about 2900 feet (where the rapids begin to descend to the plains) is not too low. The water is dark as in Peat streams. There must be at least three miles of fishable water, much of it through cool evergreen forest. Elephants and black monkeys seemed to be the principal inhabitants of this extremely picturesque valley which looks so ideal for big game,

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The Pykara Hydro-Electric works.

By, C. P. Bhimayya, B. A., M.F.C. 1933—35 Division.

During the winter months the junior Division students of the Madras Forest College camp at Kargudy on the western slope of the Nilgiris, about ten miles from the Pykara Hydro-Electric works. In the last Kargudy camp, Mr. A. A. Khan, I.F.S. the officer in charge of the camp, arranged with the Resident Engineer of the Pykara Hydro-Electric works for the students' visit to those works.

On the bright but chill morning of the 7th February 1934, we (the students of the Madras Forest College) cycled down to Singara, where the Power House is situated. We reached there at about 8 A.M. There we got into the haulage trucks which convey the paying and privileged visitors as well as the officers connected with the works to Pykara, which is high up on the hills. This haulage track is the feature of the greatest interest here. It runs along side the penstock and is controlled by five electrically worked winches. Every up to date engineering skill seems to have been exhibited in the installation of this track. Trucks are hauled along this track by means of wire ropes, gliding over well lubricated rollers and pulleys fixed horizontally at salient points.

The rope is attached to the winches. The man at the winches is guided by signals transmitted by lines-men on these trucks who by touching the wires, running side by side with the track, with a metal rod cause the ringing of signal bells at the controlling stations. One ring of the bell means gliding down, two means stopping and three make the truck to be hauled up. Charts of the whole track combind with indicators on the rope to show the steepest portions of the track enable the man at the winch to regulate the speed at these places. The whole track is about 10,000 feet long and in this distance a vertical ascent of 3,000 feet is accomplished. This gives an average gradient of 1 in 3. In one place the gradient is as low as 1 in 16, and in two portions it goes to a maximum of 1 in 1. It is at these two places that the chart and the indicators do yeomen service in regulating the speed.

Persons travelling in these trucks have to give in writing that they hold themselves responsible and not the department for any injury or damage that may occur during the journey. Thus at the very outset one is impressed that one is running a great risk in travelling by these trucks. So people lacking in spleen will rather walk up the 10,000 feet along the steps that lie all through than run this imaginary risk. Once a person travels on it, he will, for the sake of the thrill and pleasure it affords, run hundred such risks than miss a journey on them. Their slow motion may be compared to that of an elephant, but the rocking ane jolting are absent in this case. The smooth gliding had the effect of lulling one of the students into a short sweet slumber. Besides the thrill experienced during the gliding one can also enjoy the glorious scenery that dances all round. The barren plains of Mysore lying low, quite far away, the

tree-clad hill tops of the other mountain ranges of the Western ghats stretching quite close by, and the deep gorges of the river Moyar gaping right in front, are scenes the kind of which one rarely comes across during one's short span of life. The beautiful dales and gorges between which the track runs are by themselves capable of giving food enough for an aesthetic eye. Artificial factors of interest are also not wanting to keep the observer busy. The awe-inspiring steep ascents on this tract are likely to affect nervous persons when viewed from their bottom. Where the gradient is 1 in 1, one would doubt the stabitity of the rails resting on hollow metal sleepers. These sleepers are kept in position by wire ropes tied to long metal bars driven deep into solid rocks and fixed with cement mortar. When viewed from below the whole track presents the appearance of so many ladders joined to one another and leaning against the hill slope. The track originates from the Power house and terminates at the very top of the hill wherefrom the down-rushing current of water is obtained.

The water which produces the immense amount of energy is obtained from the diversion weir of masonry constructed in the bed of the Pykara river. This river has its source on the south-western hills of the Nilgiri plateau and flows towards the North-western part of it. Before leaving the plateau it falls down through a vertical height of 3,000 feet. It is just a little distance above this falls that this diversion weir is situated. Discretion seems to have been fully employed in the construction of this dam. For all purposes it looks like a four-span bridge. To a casual observer it gives little or no impression of a dam. But the maximum quantity of water supply necessary to produce the required amount of energy is at the same time obtained. Out of the four spans, two subsidiary

ones, instead of being open are closed by hand-operated gates which regulate the flow of water over the weir. Arrangements have been made in the main spans to raise the level of the river by means of stop logs, if necessity arises. The whole construction rests on a solid rock which forms the bed of the river.

The water diverted by the weir is directed into a flume which is about a mile long. This aqueduct skirts the side of a hill and is to a great extent unlined. Where the soil is not rocky linings of granite have been provided. Near its other extremity the flume crosses a drain canal. There it is made up of open steel conduit carried on trestles. The portion further down this is lined with reinforced concrete to a distance of about 1,500 feet. The water flowing through this aqueduct is discharged into a reservoir. Just at the mouth a special form of re-inforced concrete work termed "Remco" is introduced. This makes the water flow down smoothly as the portion is given a smooth semicircular cross-section. Just above the canal all along the hillslope catch water drains are dug out. These prevent the water from above rushing down on that side of the flume and eroding the side. The water from these drains is carried over the canal by means of viaducts of timber lined with tarred zinc sheets. In some places viaducts of masonry are built and at certain other points the flume is brought over drainage culverts. Throughout its length a uniform breadth for the flume is maintained. A gradient varying between 1 in 120 and 200 is given. This low and even gradient makes the flow of the water smooth and silent up to where it is discharged into the reservoir.

The reservoir is formed by building two solid bunds of masonry on either side of a valley. The water in this

has a pure crystalline hue which is enhanced by the grass covered hill tops that lie round it. The sky-blue surface of this tank in full of gentle ripples and they contribute much towards the sublimity that dwells over the whole neighbourhood. The scenery round this reservoir is worthy of mention. The decent buildings connected by well maintained roads and surrounded by beautiful gardens, the gentle hill-slopes covered by the silent corifers, the noisy Australian Acacias and the lofty Eucalypts, the green hill-tops with a stray *Rhododendron* tree here and there with its scarlet flowers and the shallow ravines with the small brooks, impress the mind of the observer very much.

When we visited these works one of the staff whose services the Resident Engineer had very kindly lent to us, was with us. He took us to see all that was worth seeing and very patiently answered all our queries. After seeing the reservoir we were taken to see the Pykara falls which are close by. We had to cross the Pykara river on our way, over a suspension bridge of wire ropes and timber built in good solid style. After crossing this bridge we went along-side a flume of open steel couduit carrying water to the power station, from where the cinchona estate was formerly having its electric supply. Just near the falls this flume commences its descent. From above, the falls can be viewed only at an angle, and a full appreciation of its grandeur could not be made. Since this falls has no regularity in its drop and as there is no proper site for a power house near its bottom, recourse has been had to the diversion described above. This fall lies to the south of the reservoir.

From the reservoir the water is let down through pipe lines of steel. To start with it is a single line formed

by a tube of 78″ diameter. The flow through this pipe is governed by an electric motor which opens or closes the gate at the beginuing of the tube. The motor is controlled from the power house and can also be worked by the hand. This precaution is to stop the flow immediately the need to do so is felt at the Power House owing to any unforeseen trouble. This big pipe splits up into two tubes of 27″ diameter immediately after leaving a surge tank of 6′ diameter and 65′ height. This surge tank safeguards against the danger resulting from sudden changes of flow in the penstock line due to rapid changes of load on the generators in the Power House. The two pipe lines, after winding down the hill-slopes parallel to one another, split into three lines of tubes of 16½″ diameter, very near the Power House. The total length of the Penstock line is about 10,000 feet and they descend down through a vertical distance of about 3,000 feet. They jet out water on the turbines at the Power House with a force of 1,300 lbs. per square inch which is said to be the maximum water power obtained so far in the whole world. There are 1060 joints in the lines which are perfectly water light. At intervals these pipe lines are firmly anchored and there are in all twenty eight such anchors. Each anchor weighs up to 400 tons and is of a complicated design. In the installation of these pipe lines all modern engineering skill appears to have been displayed to perfection. Not a stone is wrongly laid, not a screw falsely inserted and not a nut loosely fastened. The biggest article and the smallest particle serve equal purposes. Most of the works are of a protective character. Wherever the penstock passes along side a cutting protective covering of wooden decking is provided. Where there are loose solitary rocks threatening to tumble down on these lines, they are supported by base-

ments of masonry. Revetments with weep holes have been built wherever the cuttings are unsafe. All these works present such a stable appearance that nothing short of an earth-quake or some such freaks of nature could be expected to dislodge them.

The Power House is at the bottom of the hill slopes on the north western side of the Nilgiri plateau. It is a storeyed building of solid stone masonry. Just outside it to the north the transmitting station is erected.

On the ground floor of the Power House the turbines and the generators are installed. On the top storey the control boards and the meters are set up. When the generator works, these boards are lighted by red and blue bulbs showing which of the plants are alive and which of them are functioning as stand bys. Each consuming centre has got a separate meter here. Coimbatore has got its own, Ootacamund and Coonoor their own. Some of the big estates are also supplied direct. Coimbatore consumes the greatest amount of current. In all there are three generators of which only one is functioning and the other two are lying idle owing to want of demand. Sometimes owing to the stoppage of the work in the mills or some such cause, the consumption of current will be suddenly reduced thus causing a strain on the generator. To guard against this a contrivance has been provided for, which under these circumstances automatically regulates the strain on the generator. The initial voltage of one generator is 11,000 and during transmission they are able to change it to 66,000 volts. Practically all control is automatic and rather complicated.

The turbines are kept enclosed in cases of steel. Fortunately there is a spare one kept out as a stand by.

These are wheels of about 5 feet diameter having spoon shaped appendages notched on their tops, around the rim. It is on these appendages that the water jets out and turns the wheel. The working of these wheels is controlled by an automatic governor fitted beside the terminus of the feed pipe. A pin from this governor projects into the nozzle of the feed pipe through which the water jets out on the turbine and by moving in or out, it regulates the magnitude of the jet. At present only one of these turbines is in action and the hum and its droning noise deafens the ears of the visitor. It is rather difficult to estimate the vast amount of energy and the great noise that will be produced if only the other two turbines were set going.

On the whole we enjoyed that fine day's excursion very much and we returned to our camp with the rare satisfaction of having visited one of the five biggest Hydro-electric works in the world.

College-day, Madras Forest College, June 30th, 1934.

The distribution of prizes and certificates to the twenty first batch of students trained in the Madras Forest College took place on June 30th, 1934, the concluding day of the 'Forest College week.' His Excellency, Khan Bahadur Sir Mahomed Usman Sahib Bahadur, K. C. I. E., Acting Governor of Madras, presided over the function. The students of the College furnished a guard of honour, which His Excellency, and Mr. A. Wimbush, the Chief Conservator, inspected.

Mr. P. W. Davis, the Principal, opened the proceedings, by addressing the gathering as follows :—

"Your Excellency, Mr. President and Members of the Board of Visitors, Ladies and Gentlemen,

"Permit me, Your Excellency, to extend to you a very cordial welcome, and to express our gratification at the honour afforded us by Your presence here to-day. We recall with pleasure that this is your second visit to us, the former occasion being in 1927, when you were good enough to honour a similar function, and we are deeply sensible of the interest taken by Your Excellency in the welfare of this College.

"I am called upon now, to deliver my report concerning the events of the past year at this College :—

"The tutorial staff comprises, in addition to the Principal, one Imperial Service Forest Officer, and two Provincial Service Officers. The year opened with no fewer than three changes in the personnel. My predecessor, Mr. J. C. Wrench, handed over charge of the Office of Principal on the 25th July to proceed on leave to Europe. Mr. M. Kesavanunni Nair, the 1st Senior Instructor, and Mr. Ramachandra Rao, the 2nd Senior Instructor, also left the College on relief by Mr. Abdul Ali Khan, and Rao Sahib K. G. Belliappa respectively. The 1st Junior Instructor, Rao Sahib V. N. Seshagiri Rao was thus almost our sole link with the previous order, but I desire to acknowledge also our debt to Mr. Ramachandra Rao who, although on leave in Coimbatore, maintained a very close interest in the College and was able to assist and advise upon several occasions.

"Mr. Seshagiri Rao underwent a refresher course of training in Engineering Field works with the Sappers and Miners Unit at Bangalore during last July vacation. Havildar Kadir Batcha Sahib took a refresher course in Drill and Physical Training also at Bangalore.

"The total number of students at the College is 53, i.e. 28 Seniors and 25 Juniors. Of this number 36 are from Madras Presidency, the remainder coming from Bombay, and from Hyderabad, Bhopal, Indore, Vishalgad, Mewar and others States.

"The Senior Division students from Madras are mostly men of from 10 to 15 years' service in the Forest Department as Foresters. These are therefore not new to forest life but have stuck well to their work which was often of a gruelling kind, and they have well earned the training which they have now received to enable them to become Rangers The Junior Division are comparatively " unsalted " but start with the advantages of youth.

"Our Junior Division for next year, beginning on the 1st August, is likely to number only 10 students coming from outside provinces and States, unless the Madras Government yet decides to depute a quota from this Presidency. Private students paying their own tuition fees are but few at this College, since there is no guarantee under the present system of appointments to the ranger cadre that they will be absorbed into Government service and elsewhere the outlets for trained men in Forestry are very few. (It is possible that some alteration in the rules of admission will be made in the near future).

"During the year, with the approval of the Board, a short course of lectures on the care and handling of fire-arms was given by an Instructor from the Police Central Recruits School. This will be continued in future years. A few special lectures were arranged in camp, given by local or touring Forest Officers, which were much appreciated.

"The students toured in the following places :— *Seniors* : Walayar (Palghat Division). Nedungayam

(Nilambur Division). Aiyur (North Salem Division). Arambyshola (Ootacamund). *Juniors*: Sadivayal (Palghat Division). Mount Stuart (South Coimbatore Division). Kargudi (Nilgiris Division). Bandyshola (Coonoor). Altogether 5 months are occupied in touring. The Walayar camp for the Seniors was held in September instead of August so as to coincide with the Junior camp at Sadivayal. The camp at Aiyur which was begun in 1932 in place of the Olavakkot camp has now been approved as a regular College camp. It affords excellent opportunities for the study of sandal and its related problems, as well as for the study of the drier fuel forests.

"While on tour the students were able to visit some places of general interest, of which the following may be mentioned:—The Station Timber Depot at Walayar; the Beypore Timber Depot; the Standard Furniture Company's Workshops at Kallai; Messrs. Parry and Company's Sawmills at Kallai; the Cochin Forest Tramway; the Elephant Camp at Palacadavu; the Glen-Morgan-Pykara Hydro-electric Power Plant; the Government Botanical Gardens and Nursery at Ootacamund.

"At all these places the College party was welcomed and shown round by those in responsibility and our thanks are due to them. In the several districts toured in, our thanks are due also to the District Forest Officers and local staff who have done much to make the camps a success,

"I come now to Games and Physical Training. These form a compulsory part of the College curriculam, to which considerable importance is attached. We find of course that some students, chiefly the younger ones recently from College, have a natural bent towards outdoor games.

The Senior Madras Students, while showing stamina, lack speed, which is natural in older students. Owing to the frequent camps, it is difficult to keep in practice with all games, and there is some lack of combination between Seniors and Juniors when they return to Head-quarters.

"In *Hockey* the College played five matches against outside teams, of which we were the victors only in one. It was found that the short stubbly grass on our Hockey ground not only slowed up the game very much, but led to wild play and to several accidents; the style of play seems to have much improved since the ground has been scraped. In *Cricket* the College played three matches during the year and won two. *Football* has been revived after an interval of some years and is increasing in popularity. We played only two outside matches, and won one. This is a game in which much yet could be done. In *Tennis* there have been fewer players than usual. There were six competitors for the Fischer Cup, which was won by Krishnamurthy, a Senior Student. *Volley Ball* is popular in camps where facilities for other games do not exist.

"The *College Athletic Sports* were held last October. The weather was very pleasant, and we had a most successful afternoon, and a large number of spectators attended. Two College records were comfortably broken, the Shot-put and the Invitation Half Mile Race. We won a victory over the Police in the Tug-of-war, which however was of short duration, as they turned the tables on us the following February at the Olympic Sports. The Richmond Cup for the highest aggregate number of points was won by C. M. John, a junior private student, with 13 points; Senior student B. H. Patil being runner-up with 12 points.

"The College is now not qualified to compete in the Grigg Memorial Sports. The Coimbatore Olympic Sports, held this year in February happened to coincide with the final Cricket test match in Madras between M. C. C. and India, and our numbers were consequently rather attenuated. The lack of serious training due to the long camping period from November until the end of January was also felt. We took two "2nds" — in the one-mile and three-mile races.

"The *Cross Country Race* of 7 miles was run on the 10th March, being won by Senior Student N. C. Madappa in 45 minutes 25 seconds,—a quite commendable time. K. M. Atchayya, also a Senior student, came second in 48 minutes 15 seconds, and the rest finished the course in the prescribed time.

"*Swimming* — a compulsory item of training — is practised at Kargudi and Nedungayam camps; we found it particularly enjoyable at the latter camp where water-polo can be played. The swimming medal this year was won by M. Narayana Nambiar, and Sankara Menon was second in the race.

"What are known as "Sixes" Tournaments in Hockey and Foot-ball were held this half-year amid some enthusiasm among the students.

"On the eve of his departure from the College, Mr. J. C. Wrench was kind enough to donate liberally towards the formation of a Badminton court at the west end of the estate for the benefit of the clerical and subordinate staffs. The fund was completed, and the court is now in regular use.

"The general standard of health and discipline has been satisfactory, and I think it is noteworthy that the

Senior Division in particular has improved in health since their first year at the College. We have had however an unusual number of broken bones from one cause or another during athletics. Owing to the prevalence of small-pox in Coimbatore everybody iu the Estate was vaccinated by the Public Health Officer. Several cases of chicken-pox were reported on the estate, and one student was taken to hospital from Coonoor camp. Malaria continues to make its toll on the sick list, but I think no more than is usual, and perhaps inevitable.

"With Your Excellency's permission, I would like to refer to a few matters of more general importance, if they do not take up too much time.

"Owing to the rapid growth of Coimbatore the Municipal area now encircles us, and it was inevitable that the Cowley-Brown Road should serve as a public thoroughfare, although still nominally College property.

"The College is now served with electricity at a cost of about Rs. 25,000/-, the current having been available since the beginning of March. The students' Club room has been also fitted at a cost of Rs. 200/- and paid for by the Students' Club. A portion of the Cowley-Brown Road and the College Main Building still remain to be lighted.

"I should also mention that the long-delayed question of a regular water-supply to the College is likely soon to receive attention, and it is understood that there is at present a proposal to serve this and the Agricultural College, together with the Municipal High Level Area under a joint Scheme estimated to cost Rs. 27,500/-

"The Madras Forest College Magazine enters shortly upon its 19th year of publication. It is hoped that the

appeals of the Chief Conservator and myself in the last number were seen. I feel convinced that much interesting material goes almost daily to waste in the experiences of Forest Officers all over the Presidency, which if communicated to the Editor would make this Magazine almost unique and one of very great interest. I can already promise you a treat in the next number.

"May I also appeal to Forest Officers not to forget the existence of the Gass Forest Museum? It is the sole one of its kind in Southern India, it is a source of very considerable interest to the public and it has an obvious educational value to all, but it *must* be kept up-to-date and attractive. I confess to the feeling myself when I enter, that most of the exhibits have been there a very long time. I do not wish to criticise the present collections, but I am certain that in many sections, as for instance in the entomological, pathological, geological and utilization sections, (to say nothing of the herbarium), we are very far from being as comprehensive or as up-to-date as we might be. When specimens of interest are sent from Districts to the Forest Research Institute at Dehra Dun, it is often quite a simple matter to send a similar one to our own Museum (but please don't send us very large specimens "To Pay" without warning,—once we were sent a whole tree!) During the current year we have been able to add several new specimens to the Herbarium, and we have increased our lists of flora in the Districts visited. Mr. Seshagiri Rao is busy working on this subject, which we hope will be of value to Forest Officers outside the College, before long.

Examinations and Awards.

"I now come to the results of the Examinations. The final examinations, conducted by outside examiners are

the best independent tests we are able to apply to the students' knowledge, but the work done throughout the course is also systematically assessed and marks are awarded upon the practical and theoretical abilities of the students from time to time.

"Of the 2 students who sat for the final examinations, 2 secured Higher Standard Certificates, with honours, 25 Higher Standard Certificates, and one a Lower Standard Certificate.

"The highest percentage of marks obtained in the Final Examinations is 81% the lowest being 58·5% giving a class average of 70%. On the whole, the present class is of very uniform ability and attainments.

"In the examination in First Aid, 28 students obtained certificates from Saint John's Ambulance Association.

"The Junior Division has done satisfactorily on the whole, although there is some disparity of educational qualifications and intellectual attainments, amongst them. The class average is 67% while the top student gets 83%.

"As incoming Principal this year, my personal remarks, I feel should be brief, for it is no doubt a commonplace that the first report of a new Principal is the easiest that he will ever be called upon to make. I take this opportunity of thanking all the staff of this College, and particularly the tutorial staff who are likewise new to the work, for their willing efforts; to Mr. Abdul Ali Khan for his keen interest in the games and athletic activities, and to Mr. Belliappa for his tact and energy as House Tutor.

"Before requesting Your Excellency to give away the prizes and certificates I wish to thank Your Excellency once again on behalf of the staff and students for so kindly consenting to come here to-day.

"I will now ask His Excellency the Governor to be so good as to present the prizes and certificates :—

Rank.	Name.
	Honours Certificate.
1.	C. Sreedhara Mannadiar.
2.	K. Krishnamurthy.
	Higher Standard Certificate.
3.	K. B. Aiyappa.
4.	M. D'Souza.
5.	S. Muthukrishna Naidu.
6.	M. Narayanan Nambiar.
7.	K. A. Muddayya.
8.	M. D. Pitchai Pillai.
9.	M. Raza Khan.
10.	P. K. Sankara Menon.
11.	W. Vores.
12.	N. C. Madappa.
13.	N. P. Chirukandan.
14.	C. B. Pemmiah.
15.	K. S. Muthanna.
16.	A. S. Kaunds.
17.	K. M. Atchayya.
18.	M. B. Madappa.
19.	M. S. Subbiah.
20.	B. H. Patil.
21.	S. Q. Quadri.
22.	V. Panchapakesan.
23.	F. B. Kunders.
24.	C. J. [illegible]uthanna.
25.	K. S. Wodayar.
26.	S. Pitchai Naidu.
27.	C. B. Ekambara Mudaliar.
	Lower Standard Certificate.
28.	Q. Syed Ali.

List of Prize winners etc :—

S. No.	Name of Prizes.	Students who obtained it.	Nature of Prizes.
1.	Medal for the Senior Student obtaining the highest number of marks.	C. Sreedhara Mannadiar.	Gold medal.
2.	Medal for Honours.	C. Sreedhara Mannadiar.	Silver medal.
2(a).	Medal for Honours.	K. Krishnamurthi.	Silver medal.
3.	Cambell-Walker Prize for the best student in Forestry (in Final examination).	K. Krishnamurthi.	(1) "Silviculture of Indian trees." Vols. I to III. (2) Cash Rs. 17.
4.	Lodge Prize for Engineering.	S. Sreedhara Mannadiar.	(1) P. W. D. Handbook Bombay. Vols. 1 and II. (2) Molesworth's Pocket Book of Engineering Formulae.
5.	Brazier Prize for the student likely to make the best outdoor Ranger.	K. B. Aiyappa.	(1) "Silviculture Systems." By R. S. Troup. (2) Flexor tape. (3) Compass. (4) Molesworth's Pocket Book of Engineering Formulae.
6.	Madras Conservators' Prize for Survey and Drawing. (In final examination).	K. B. Aiyappa.	(1) Steel tape. (2) Compass (3) Molesworth's Pocket Book of Engineering Formulae.
7.	Madras Conservators' Prize for Botany. (In final examination).	K. Krishnamurthy.	(1) Folding magnifier. (2) "Aims and methods of study of vegetation" by Tansley and Chipp. (3) Fountain pen.
8.	Madras Conservators' Prize for Range Administration. (In final examination).	M. Narayana Nambiar.	(1) Troup's "Silvicultural Systems." (2) Flexor tape. (3) Compass. (4) Cash Rs. 6.

List of Prize winners etc :—*(Continued).*

S. No.	Name of Prizes.	Students who obtained it.	Nature of Prizes.
9.	Chief Conservator's Prize for the best Junior student.	C. P. Bhimayya.	Binocular in case.
10.	Indian Forester Prize for an essay by past student.	Mr. T. D. Ponniah, M. R. HONS., Range Officer, Kuttalam.	Cash Prize Rs. 25.
11.	Indian Forester Prize for an essay by present student.	K. Krishnamurthy.	Cash Prize Rs. 25.
12.	Richmond Cup to the student obtaining the greatest number of points in the more important events at the College Sports.	C. M. John. (Junior student).	Richmond Cup.
13.	Pentland Shield for the all round Athlete.	Mir Mohammad Ali.	Miniature Shield.
14.	Fischer Cup for Tennis.	K. Krishnamurthy.	Tennis Cup.
15.	Mannarghat Moopil Nayar Cup for Cross Country Race.	1. N. C. Madappa. 2. K. M. Atchayya. 3. Ahmed Sheriff. 4. K. A Muddayya. 5. C. B. Pemmiah.	Cup. Silver Medal. " " "
16.	Cowley-Brown Cup for Inter-divisional Hockey.	1933–35 division. (Junior Dn.)	Cup.
17.	Swimming Medal.	M. Narayana Nambiar.	Medal.
18.	Hockey Sixes.	1. Mir Mohammad Ali. 2. N. C. Madappa. 3. B. H. Patil. 4. M. S. Subbiah. 5. N. V. A. Robeiro. 6. S. Sirajuddin.	Medals.
19.	Foot-ball Sixes.	1. M. A. Sheriff. 2. Muhammad Ali. 3. William Vores. 4. B. H. Patil. 5. K. Krishnamurthy. 6. C. S. Mannadiar.	Medals.

His Excellency, the Governor, after distributing the prizes and certificates, made the following speech :— " I recall with very great pleasure the previous occasions on which I had the honour of presiding on the Forest College Day. The subject of forests was then in my portfolio, but though my activities have for the last six years lain in other directions, I have not ceased to be interested in this very important sphere of Government, and I am delighted that while acting as Governor, to have this opportunity of renewing my acquaintance with the Forest College, its staff and its students. During the period between the two occasions on which I have presided, a very considerable change in forest policy has been made. At that time, large-scale exploitation of our forests had been inaugurated, and I referred to it in my speech. After a full trial, this policy has in the intervening years been abandoned as unsuited to Madras forests, and we have now reverted to the previous policy of conservation, protection and exploitation on a more economical scale. I hope I shall not be misunderstood if I say that we have returned to peace-time forestry, because large scale exploitation was really inspired by the exceptional demand for timber during war and the post-war years, a condition which no longer exists. The experiments at least have given us valuable knowledge as to the capacity of our forests for economic exploitation and will stand us in good stead in future emergencies.

" The Government are directly concerned in one point to which the Principal has referred, namely, deputing to the junior division a quota from the presidency during the coming college year. The question is under correspondence between the Government and the Chief Conservator of Forests, and I hope a decision will be reached before the term opens.

" The report which the Principal has just read shows a year of great activity and progress both in work and play. I am particularly pleased to observe that so many of the senior students are drawn from the ranks of foresters, because I feel that the incentive given to the lower grade by a system of promotion will be an encouragement to the grade as a whole, which will be reflected in greater efficiency in the day-to-day administration.

" To all students and particularly to those, who are leaving, I wish every success. Some of them, promoted foresters, have already had experience of a forest life. They will go back to duties in a higher sphere than before with the added store of learning and experience which they had gained during their stay in the College. Others have before them a life, often lonely and unhealthy, but full of interest and delight, given only to those who dwell in close contact with nature.

" Before I close, I should like to express my deepest thanks to the Principal, Mr. Davis, and all connected with the College for the hospitality I am receiving this afternoon and to say how greatly I appreciate it ".

Mr. A. Wimbush, the Chief Conservator of Forests, then addressed the gathering as follows :—

" Your Excellency, Ladies and Gentlemen,

" I first wish to reiterate the welcome extended to Your Excellency by the Principal. Forest officers have not forgotten the interest which you took in their service during the period in which you were in charge of the forest port-folio. It is some years now since you last visited the Forest College in order to preside on Prize Day, and it is a very real pleasure to all of us to have you amongst us here once more in your exalted position as Governor of Madras.

" Since Your Excellency's last visit, the College has passed through several vicissitudes. For the 1930–32 and 1931–33 sessions Government did not find it possible to depute any Madras Government students to the College. During the sessions which has now drawn to a close, 20 Madras Government students have been trained and 16 of the students who have now completed the first half of their College Course are probationers for the Madras Service. The Principal has pointed out the fact that for the coming session which will start in August he only anticipates having ten students. In his speech at this function last year, Sir Krishnan Nair expressed the opinion that this College might be expected to work with the full complement of students in future but unfortunately Government have not, so far, seen their way to accept my proposal to train Madras Government students

during the coming session. From every point of view it seems desirable to have as equal numbers as possible under training each year. It is particularly desirable from the point of view of the College games which form an important part of the College training. Friendly competitions in various games between the Seniors and Juniors are of great benefit and if one class is so small that in cannot put forward a team, even if all its members play, the advantages of this stimulating competition between the Senior and Junior classes are lost. Realising this I have again approached Government with a request to allow me to depute a certain number of suitable Foresters, who have joined the service recently, for training in the coming sessions, as otherwise an abnormally large number of men may have to be trained in a subsequent year. Government's orders on this request are awaited.

" The reports from those officers who have conducted the final examinations disclose the usual thoroughness in arriving at a true appreciation of the students' knowledge. It is gratifying to note that several of the examiners state that the oral examinations revealed the fact that, in a number of cases, students displayed a much more thorough knowledge of the subject than was revealed in the written examination. This leads to the supposition that there has been a satisfactory absence of that memorizing of text-books which is often a common complaint. An examiner's task is not an easy one and it involves much time and careful thought. I wish to thank all those who have undertaken this duty.

" In wishing success to all you students who have passed out of the College to-day I have a word of advice to give which is particularly applicable to those of you who have already served in the Forest Department for a number of years. During your stay at the College you must often have realised that you were now learning the scientific reason for a great many of the technical works which you were called upon to undertake before you were trained. I have no doubt that you have also realised how very much more interesting forestry becomes when you know the scientific reasons for the various sylvicultural and other operations necessary for the welfare of a forest. You

may soon expect to play a very important part in giving effect to the various prescriptions contained in the working Plans which you will have to carry out and what I want you to do is to make a point of telling your subordinates and even your labour force, in the simplest possible words, what the reasons are for doing a particular operation in a particular way. For instance, if you want your Forest Guards to keep cutting back bamboo growth in a teak plantation and if you happen to think that the removal of the whippy shoots before they have developed leaves instead of after the leaves have been sending back food to the roots for a month, will weaken the rhizomes, your men are much more likely to do what you want if you spend a very small amount of time and patience in telling them, in a way that they can understand, the reason for what you require.

"As you yourselves must realise you have derived great benefit from your course at the College not only mentally but also physically. During your previous years of service I have no doubt that most of you have had fever and other complaints and if, as I have no doubt is the case, you have noticed a general improvement in your physical condition during the last two years it is your duty to Government no less than to yourselves, to continue, so far as is possible, the regular habits and mode of living which have led to this improvement and whilst keeping yourselves fit, to realise also your responsibilities in the matter of helping and advising those who will work under you to do the same. I now wish you all the best of success and in following your careers I shall hope to be convinced that your somewhat belated training has been fully justified."

The gathering then adjourned for a tea party given by the Board of Visitors, the Principal, and staff of the College. Sudden and unexpected rain at the commencement of the tea party caused some inconvenience.

After tea, His Excellency was shown round the museum, by the Chief Conservator of Forests. Other distinguished guests were likewise pleased to visit the museum, and spent in it a long time till late in the evening.

EXTRACTS.

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1. Forest Research in India, 1932–33—General review :

.......Symptoms resembling spike have been produced by four species of insects, and since the close of the year a more definite indication has been reported. The problem of preventing borer attack on bamboos by felling at suitable seasons and by treatment with suitable antiseptics, has been solved. The myth about the effect of the moon's phases on liability to damage has been scientifically disproved. The safest period to fell bamboos at Dehra Dun is at the end of the hot weather and in the first month of the monsoon, and the next best period is from the end of the monsoon to the beginning of the cold weather. The study of natural factors controlling teak defoliators has progressed far enough to establish the principles of biological control in plantations and the control of secondary borers of *Sal*, which became important where *Hoploceramby*x is kept in check, has been investigated. * * * * * *

In the seasoning section, Dr. Kapur has evolved a process of kiln seasoning which is quicker, less costly and leads to less degrade than the process hitherto employed; * * * the air seasoning of railway sleepers in the Punjab was investigated. In the wood preservation section laboratory tests of the arsenic preservative "Falkamesam" have given satisfactory results, and it is hoped that the claims made for it will be substantiated. Mr. Kamesam is also devoting attention to the fixation of copper in wood.

* * * * Birch, *(Butula ainoides)* from Bengal was found to have good qualities, and plywood was made from several other timbers.......Good charcoal briquettes were made with *Bauhinia retusa* gum. The paper pulp section was able to establish that bamboos *(Dendroclamus strictus)* that have flowered and died yield a higher percentage of cellulose and paper than green culms though rather more drastic digestion is needed. Satisfactory packing and wrapping paper was made from bagasse (crushed sugar cane) and small scale tests indicate certain further bamboos as suitable for the manufacture of pulp and paper. Laboratory results suggest a possiblity of making artificial silk from *Melocanna bambusoides*, and pulp from *Eucalyptus globulus* appears suitable for use in admixture with long fibred pulp.........

The chemical branch records the results of the study of certain drugs, oils and fats. Contrary to expectations it has been found possible to grow *Artemesia maritima* with a satisfactory santonin content at the Institute, and it has peen proved that storage of the seed of *Strychons nux-vomica* does not involve any loss of strychnine.......The seed of *Actinodaphne hookeri* has been found to be an excellent source of lauric acid. Dr. Sri Krishna records that chemical examination of seasoned teak wood yielded neither an essential oil nor a fatly oil; its oily nature is ascribed to the soft resinous substance it contains.

—Extracted from "*Forest Research in India*, 1932–33. Part I—The Forest Research Institute.

2. Aerial Photography :

For some years, valuable use has been made of aerial photographs in the compiling of topographical maps, and in depicting thereon the various forest types. Type maps so constructed have been of great aid, not only in reducing the expenditure required for any given area, but also in speeding up final accomplishment of some of the results desired in forest survey work.

The technique in interpreting aerial photographs for forestry purposes has been carried beyond that stage, however, and an attempt is now being made to ascertain from such photographs information respecting the content of timber stands. In vertical photographs the tree heights are derived by measuring the length of the shadows. For this purpose it is necessary to know the latitude, longitude, date, and hour at which the photograph was taken. During the past year a system of grids has been developed by the Forest Service by which, in oblique photographs, the height of the trees can be measured. From the average height and density of the stand, estimates are now being made of the approximate amount of timber.

For forestry purposes winter photography has proved much more satisfactory than summer photography. The conifers stand out clearly against the snow, while at the same time the bare hardwoods are distinct; the shadows are longer and more distinct; and roads, trails, fences, streams, etc., are not obscured by the deciduous foliage. Satisfactory forest data can be secured from much higher altitudes in winter than in summer; this is a material factor in the cost of aerial surveys.

3. Statement of Forest Fires in Canada by causes for ten-year period 1922–1931 :

Causes.	Total No. of fires.	Per cent.	Average annual number of fires by causes, 1922–31.
Camp-fires ...	10,886	18·2	1,080
Smokers ...	5,237	8·8	524
Settlers ...	9,290	15·7	929
Railways ...	9,146	15·4	915
Lightning ...	8,030	13·5	803
Industrial operations ...	2,458	4·1	246
Incendiary ...	2,795	4·7	279
Public works ...	514	0·8	51
Unclassified ...	2,801	4·7	280
Unknown ...	8,345	14·1	834
Total ...	59,502	100·0	5,950

The table shows pretty vividly the need for improvement in forest fire protection, an improvement which will involve steps aiming at fire prevention, since 13.5 per cent of all forest fires starting in the past ten years in Canada were due to lightning or other natural causes, while 86.5 per cent were attributable to human agencies. The major cause of forest fires is carelessness in the use of camp-fires by the public travelling in the forests. Settlers' land clearing operations occupy second place, aud a reduction in this cause is possible only through a closer control of such burning operations Railways, over a ten year period, are given third place, but there has, however, been a decided reduction in the number of fires through this cause in latter years. The " unknown " cause, while showing an improvement in the last few years through better organization and reporting facilities, must be further reduced, since preventive remedies are not available for fires unless the origin is apparent. Lightning shows a marked increase iu the past three years. This may be due to two reasons, first, the extremely dry weather which has prevailed and is conducive to lightning storms, and secondly, the exercise of more care in investigating and reporting the origin of fires. Fires of incendiary origin reached a high figure in 1931, which may be explained to some extent by the unemployment conditions which prevailed in certain districts.

—*Report of the Director of forestry, Canada*, 1931–32.

4. Good and Bad Timber Salesmanship :

SOME HOME TRUTHS FOR REPRESENTATIVES AND THEIR PRINCIPALS—A SCIENTIFICALLY CONSTRUCTED COSTING SYSTEM THE PRIME NEED OF THE INDUSTRY ?

Extracts from a lecture by Mr. M. Breckenridge at Glasgow :—

Attributes of a Good Salesman.

Salesmanship, perhaps, may be the faculty of exchanging some possession, real or abstract, for another which may be, and generally is, of an intrinsic kind. It is essential that the exchange must leave the seller better off, and the degree of betterment, qualified by the circumstances, is the measure of the salesmanship. Salesmanship, then, might be the art of selling when the result of the sale responded to the degree of the art.

Having hinted that the quality of salesmanship prevailing in the timber trade was not all that could be desired (though the lecturer said he would not stigmatise the timber salesman in particular beyond his neighbour selling other commodities), Mr. Breckenridge asked, " What are the attributes of a good salesman ? "

However he might be constituted the salesman must cultivate a cheerful manner and a resilient temper. He must acquire a conversational knowledge of a wide variety of subjects. He must study (not necessarily very deeply) the peculiar vagaries and reactions in human nature. He must practise the subtleties of flattery. Proficiency in this was highly profitable. He must pretend to see the world and the things in it through the same glasses as those of his intended " victim. " He must acquire patient reserve in face of insult and of inconsiderate treatment.

A salesman must possess an intimate practical knowledge of the thing he sets out to sell, and must be able to advise regarding it with confidence. In the case of the seller of wood, he must know the wide variety of the nature and the properties of the range with which he deals. If he be engaged chiefly with softwoods he should acquire as much information about hardwoods as possible for him. He must know from where the different kinds of wood come, the available assortments of qualities and of sizes, the purposes for which each is most suitable, their behaviour in use and so on.

He should possess a good practical knowledge of the processes of working, sawing, planing and of conversion generally. It was important that he should know what sizes, in the rough, were required to produce finished dimensions and generally he should be acquainted with modern sawmill practice.

Above all, a salesman must know about costs and about the elements of costing. Without this knowledge he is less than nothing. "I think it is a reproach to our trade," said the lecturer, "that most of its members appear to work upon some very rough-and-ready system of costing; many, indeed, show quite conclusively that they have no system at all. A scientifically constructed costing system that would be generally accepted and commonly used is perhaps the prime necessity of this industry. This will come, but it will take some time, and for the present ignorance must remain bliss. A young salesman must acquaint himself with the elements of costing; he must learn to know when he is "really doing business and when he is only being taken for a walk up the garden."

It was scarcely just that all the blame for bad salesmanship should be placed upon the travellers who represented timber firms. When one detected a really bad traveller, one might conclude that there was something wrong with the organization that he represented—in other words that he served badly a bad boss. "The sort of person who, generally through no merit or foresight of his own, having made a fortunate purchase, hastens to throw his advantage at the feet of his and other people's customers with complete and ingenuous disregard of the effect of his action upon his own stock is the bacillus of an epidimic commercial disease. In the absence of an effective antiseptic he must be suffered with all the pain and loss that the suffering entails," added the lecturer.

Turning to some of the marks of bad salesmanship Mr. Breckenridge said he had heard of salesmen who went among their customers prophesying falling values, bearing their own markets; again, hastening with unseemly dischastity to assure buyers that their principals had no intention to abide by a price list that they had engaged their honour to observe; also knowing a contract or an order to have been placed, endeavouring to seduce the buyer from his bargain. This was too common, and it caused much irritation and deplorably damaging retaliation. People who committed these enormities were not salesman.

Trade Risks Increasing.

The salesman had not completely discharged his responsibility when he had made a sale. The transaction was not

finished until the buyer had discharged his consequent liability. It was the duty of travellers to collect and bring back information of all kinds. They were the antennæ of their firm's intelligence system. Information such as that which pertained to work in prospect, to customers and to potential customers, the amount of and the condition of their accounts with the traveller's firm and, if possible, with other firms. At the present time this part of a salesman's duty was very important because it would appear that trade risks were becoming much more real. The Glasgow Master Wrights' Association had complained that the buyer who paid with regularity, whose credit was beyond question, received no relative advantage over his competitor who might possess little or no credit at all. This statement may hold some measure of exaggeration, but there was more truth in it than there should be, and the consequences were bad from every point of view.

The commonly used methods of advertisement did not apply with direct incidence in their selling activities, as in some other trades. It would be fatuous for him to placard railway stations with captions such "Build with Breckenridge's Beautiful Battens" This might be hailed as a fine piece of alliteration, but he feared it would not sell many of these beautiful battens. Nevertheless, wide and profitable were the uses of advertisement, and the permeations of propaganda were hard to exhaust. The science of it was a study which the salesman must not neglect.

Secret of Enduring Success.

The real secret of enduring success was efficiency. Efficiency created quiet, courageous self-confidence. Efficiency demanded good equipment and good equipment could be obtained only by serious work and the habit of work—an infinite propensity for taking pains. A salesman's equipment, apart from his natural gifts of personality and of character, consisted in his knowledge of the technicalities of his job; his knowledge of the thing he set out to sell and of its cost; his knowledge of trend of conditions as reflected upon values, and his knowledge of his customers—their condition, their needs, their foibles and their fancies.

Possessing that confidence which arose from good equipment, the salesman would be able readily to take responsibility upon his shoulders. He would not hesitate to make decisions. He would be able definitely to quote a price, to accept or to reject an offer, settle a legitimate complaint, and answer on the spot any ordinary question that might arise. A good salesman must

be able to act upon his own responsibility, and he who could not or may not do so was only a perambulating circular. An employer who did not extend this scope to his representatives was cramping their development. If the salesman made an error of judgment he deserved a reproof, and no doubt would get it; but he must not be taken to task for the independance of his action. It was the quality of the judgment that might be called in question, and the wise salesman would take that which came to him in equitable temper.

Every timber merchant had something in his stock that he would gladly see pass out of his possession, and, in disposing of that superflous thing to the very best advantage, salesmen might always find an exercise of great value. He should remember, however, that expediency may serve the day, but reliability may return to-morrow.

Mr. Breckenridge stressed the importance of courageous per-istence. A dull day, an empty order book, a fancied order gone elsewhere did not entail disgrace ; they were really minor troubles, and they fled before the courageous heart.

For some years, he concluded, the art of salesmanship had had a hard battle to fight. Falling markets carried disintegrating influenees in their train. But it was a long lane that had no turning. " With the welcome prospect of betterment in our trade, " he said, " I am sure that now we may take courage, and hope with confidence that our salesmanship will take a turn and mend."

— *Timber Trades Journal, Feb., 1934.*

5. Conservation of Tropical Forests :

Three articles which have appeared in the *Empire Forestry Journal* (vol. 12 No. 1, 1933) display the difficulties which exist in conserving and putting to their fullest utilisation the tropical forests of the Empire. To take the second case first, Sir Ralph Pearson, formerly director of the Forest Products Laboratory at Princes Risborough, discusses the problem of creating and developing markets for Empire hardwood timbers at home.

Sir Ralph briefly reviews the reasons why well-known timbers have not found favour amongst markets in great Britain, ascribing some of the causes to the fact that the consignments sent over were often not carefully chosen ; nor, with the facilities available in the forests, was there much chance of their being so chosen when the short handed and over-worked forest officer was himself responsible for their dispatch. Sir

Ralph deprecates trying to push too many new timbers upon the markets at the same time, and points out the way in which chosen timbers should be forwarded and tested.

A second article, by Mr. J. B. Clements, Conservator of forests in Nyasaland, treats of the cultivation of the finger millet (*Eleusine coracana*) and its relation to shifting cultivation in Nyasaland. This article, and the practice dealt with, is typical of one of the chief sources of the disappearance of valueable forests in tropical countries, the difficulties facing the administration, not always convinced of the increasing injury supervening, in weaning the people from so wasteful a form of primitive agriculture and finally, of the troubles of a forestry department well aware of the evils resulting from the practice.

" It is therefore clear that shifting cultivation in Nyasaland is accelerated to a very considerable extent by the growing of *Eleusine coracana* under prevalent methods. Compared with the growing of other crops, the requisites of the millet make extravagant demands as regards the use of land, and systematic burning of the top soil combined with flat cultivation when carried out on any large scale leads to widespread loss and improverishment of the soil, particularly in hilly country. Rapid deforestation inevitably takes place in any wooded country where the millet is grown, as conditions are there ideal for providing both new soil for each crop and fuel for heating the soil. "

The third article, by N. V. Brasnett, Conservator of forests, Uganda, discusses the formation of State forests, and forest rights and privileges of local inhabitants in Uganda. After briefly reviewing the position of the colony from the day, in 1890, when Capt. (now Lord) Lugard signed a treaty on behalf of the British East Africa Co. with the King of Buganda, the declaration of the British protectorate in 1894, and Sir Harry Johnston's arrival in 1899 and subsequent organisation of the administration of the country, the author concentrates upon the various arrangements, regulations and ordinance for the management of the forest areas of the country.

It is impossible to deal with the varying policies to which succeeding administrations subjected the forests after the first and promising lines were laid down. But a perusal furnishes evidence that one of the past flaws in colonial administration has been the refusal or inability of those responsible for the future welfare of their charges to lay down a definite forest policy, based on wide views, and to adhere to it.

Mr. Brasnett ends his summary of the present position of the forests in Uganda with the sentence: "When formation is completed it is estimated that the State forests of Uganda will constitute just about 2% of the total land area of the Protectorate, and the total forest area, including private woodlands and the valuable savannah, just over 3%, so that it is obviously essential to preserve the whole of this small percentage." Many conversant with the tropical forest and the importance it plays in countries where it exists would consider the percentage dangerously low.

— *Nature, April 21, 1934.*

COLLEGE NOTES.

1. Cricket :

We ended the cricket season last year by playing the final match on 28-6-34, a one-day fixture against the visitors. Though we were defeated by a margin of 150 runs we fought it out to the last.

The visitors won the toss and chose to bat. They opened through Mr. J.A. Wilson and Mr. Griffith. K. Krishnamurthy opened from the southern end, and with the 4th ball of his first over clean-bowled Mr. Wilson when the total was only 5. Mr. H. P. Ward now filled the crease and he settled down soon and exhibited some good cricket by hitting all round the wicket. Mr. Griffith played a steady game. The game was stopped for some time due to rain, but was again commenced. The pair took the total to 151 when Mr. Ward in trying to lift the ball for a six was clean-bowled, his individual score being 83. Mr. Bridge now joined Mr. Griffith but only to return to the pavillion before breaking his "duck". Mr. Wimbush now went in and hit up 22 runs in beautiful style. Mr. Griffith was out at last when his individual score was 90. The out-going batsman had played delightful cricket hitting all round the wicket. It was at 4 P. M. when Mr. Sathe and Mr. Minchin for the 8th wicket had taken the total to 284 that the visitors declared their innings closed. Both the teams retired for tea.

At 4-30 P. M. with only 2 hours before them there was nothing for the College to think of but to force a draw by playing out time. The College went in and lost the first 3 wickets for 51 runs of which Md. Ali had made 20. Krishnamurthy who was in, now played a cautious game, and was joined by Vijayaraghavan. The pair played a

steady game and the latter especially was taking no chances. Soon Krishnamoorthy was sent back to the pavallion by a ball from Mr. Sweet.

Mr. A. A. Khan now joined Vijayaraghavan and soon he also fell a victim to Mr. Sweet. Natarajan now joined Vijayaraghavan and the pair took the score to 132 when Mr. Ward got Vijayaraghavan out L. B. W. when his score was 38.

At this stage the College had 2 wickets in hand and 12 minutes to force a draw. But the tail failed to stick on and the whole side came to a close with the addition of only 2 runs with still 8 minutes to play.

The Visitors: 284 runs for 8 and declared. Mr. Griffith scored 90, Mr. H. P. Ward 83, and Mr. Sathe 39 runs, and Natarajan, Krishnamurthy, Vijayaraghavan and Rebeiro took 4, 2, 1 and 1 wickets for 131, 69, 20 and 44 runs each.

The College: 134 runs. T. R. Vijayaraghavan scored 38 Mir Mahmood Ali 20 and Krishnamoorthy 16. Mr. Sweet, Mr. Wimbush, Mr. Sathe, Mr. Griffith and Mr. H. P. Ward took 4, 2, 1, 2 and 1 wicket each.

Umpires: Messrs. K. M. Thomas, and H. Shiva Rao.

T. R. VIJAYARAGHAVAN,
(Captain).

2. Inter-divisional Hockey Match 1934:

The above match was played between the Seniors and the Juniors on the 25th of June 1934. Both the teams were strong and were keen to win the cup. The former had already won it last year, and were determined to keep it with them this year too. But the Juniors,

young and enthusiastic as they are, were bent upon snatching the cup away from the last year winners.

The game was well contested and it was full of thrills from start to finish. At the end the match was won by the Juniors by 2 : 1.

On behalf of the Hockey teams I take this opportunity of expressing my thanks to both the umpires Messrs. J. A. Wilson, I. F. S., and A. L. Griffith, I. F. S., for having so kindly conducted the match.

I will be failing in my duty if I omit to mention the deep gratitude which the players have for their President and Vice-President who are so keen in promoting this laudable game and who are ever ready to hear sympathetically any of our difficulties and help us in our needs.

S. SIRAJUDDIN,
Hockey Captain.

3. M. F. C. Debating Society :

This year only one competition—extempore, was held, (unlike two in last year); Mr. A. A. Khan I.F.S. presided.

Mr. A. A. Khan, Rao Sahibs K. G. Belliappa and V. N. Seshagiri Rao, and Mr. G. Viswanatham, acted as judges.

The subject chosen was " *Discuss wood versus iron* " which was announced on the spot to each speaker ; and the time allowed was 10 minutes to each. The following five students competed. Seniors V. Panchapakesan and C. J. Muthanna and Juniors C. P. Bheemayya, A. Sheriff, and T. R. Vijayaraghavan.

Both the 1st and the 2nd prizes were won by Junior students C. P. Bhimayya, and A. Sheriff, respectively. On behalf of the Debating Society, I thank the President and

the Judges for their kindness in having evinced such keen interest in the Society.

The same evening the election of the Secretary for the next year was held, and Ahmad Sheriff was duly elected.

In the departure, from our midst, of Rao Sahib K. G. Belliappa M.F.S., Vice President, we lose a very enthusiastic and sympathetic supporter of our society. His readiness at all times to give us his valuable advice and his cheerful encouragement to students to come out boldly and speak, were the chief causes for the successful conducting of the society's meetings throughout the year. We wish him joy and sound health.

AHMAD SHERIFF,
Hon. Secretary.

4. Change in Staff :

By the end of July 1934, M. R. Ry. Rao Sahib K. G. Belliappa, Avl., B. A., Second Senior Instructor handed over to Mr. W.H. Woodhouse Adolphus, to join as District Forest Officer, Ganjam. M. R. Ry. Rao Sahib V. N. Seshagiri Rao Avl., B. A., has been appointed as " House Tutor " with effect from July 1934.

5. Students for 1934–36 course :

Eighteen students have been deputed for the 1934–36 course. The following is a list of them :—

(1) Md. Ali Khan, (Hyderabad).
(2) M. Sadasiva Reddy, (Hyderabad).
(3) M. Z. Quraeshi, (Bhopal).
(4) S. I. Hussain, (Rajgarh).
(5) N. Sridharan Pillai, (Travancore).
(6) K. P. Cyriac Pothan, (Travancore).

(7) T. J. Abraham, (Travancore).
(8) K. Virapam, (Bhopal-patnam).
(9) L. R. Sharma, (Indore).
(10) J. P. Cherian, (Madras,—private.)
(11) K. R. Radhakrishnan, (Working Plans, Madras).
(12) C. J. Nanjappa, (— Do. —).
(13) S. Natarajan, (— Do. —).
(14) B. M. Bopayya, (— Do. —).
(15) N. Ramakrishnan, (Coimbatore Circle).
(16) P. S. Sivaramakrishnan, (— Do. —).
(17) P. Balakrishnan, (— Do. —).
(18) P. Gopala Menon, (— Do. —).

Of the above, the first ten joined the College on the due date, viz., August 1st, and the remaining eight about a fortnight later, as the orders deputing them were received late.

Additions to the Library.

The following books were presented by M. R. Ry. Rao Sahib V. Narayana Iyer Avl., Retired Madras Forest Officer.

(The books marked with an asterisk are out of print, and therefore of rare value) :—

1.	Schlich's Manual of Forestry	Vol. I	(1896) :	1 Copy
2.	Do.	Vol. II	(1899) :	1 „
3.	Do.	Vol. III	(1895) :	1 „
4.	Do.	Vol. V	(1896) :	1 „
*5.	Rogers' Engineering	Vol. II	(1901) :	1 „
*6.	Do.	Vol. III	(1902) :	1 „
7.	Forest Law, by Baden Powell		(1893) :	1 „
8.	Thomason's Surveying		(1897) :	1 „
9.	A Manual of Forest Mensuration by R. S. Troup		(1911) :	1 „
10.	Forest working plans in India by D'Arcy		II Edition :	1 „
11.	Indian Forester	Vol. XXVI	(1900) :	1 „
12.	Do.	Vol. XXIX	(1903) :	1 „
13.	Do.	Vol. XXXI	(1905) :	1 „
14.	Do.	Vol. XXXII	(1906) :	1 „
15.	Do.	Vol. XXXIII	(1907) :	1 „
16.	Do.	Vol. XXXIV	(1908) :	1 „

The following were presented by Lt Col. F. C. Fraser I. M. S. :—

Books :

1. Survey of Iraq Fauna. (Mammals, Birds, Reptiles etc.) made by Mesopotomia Expeditionary Force (1915—1919).
2. "How Animals find their way about" by Etienne Kaband.

Pamphlets :

Reprinted from the Journal of Natural History "Society of Siam."

1. Note on a collection of Odonta, from South America, by Major F. C. Fraser.
2. Report on collection of Dragonflies by Major F. C. Fraser.

3. Notes on a collection of Ascalphidae, from the Federated Malay States by Lt. Col. F. C. Fraser.
4. Records of the Indian Museum Magazine 1911.
5. Note on a collection of Dragonflies (Odonta) for Siam by Col. F. C. Fraser.
6. The rediscovery of the Dragonfly.
7. Dragonflies from the Laos Country.
8. Records of the Indian Museum. (The Larva of Micromerus lineatus, Burn).
9. Description of four new Indian Odonta.
10. Do. for new Indian Odanata.
11. Memoirs of the Department of Agriculture in Indla :– Notes on Indian Odonata in the Pusa collection.
12. A list of the Dragonflies recorded from the Indian Empire with special reference to the collection of the Indian Museum. Part V. The Subfamily Gomphinae.
13. Descriptions of new Indian Odonata.
14. A New species of Disparoneura from Ceylon.
15. The Platystictas of Ceylon.
16. Notes on Odonata collected in Seistan and Baluchistan in Winter.
17. Notes on Indian Dragonflies.
18. Records of the Indian Museum. Dec. 1921.
19. The Fauna of an island in the Chilka lake—Spiders, and Scorpions.
20. New and rare Odonata from the Nilgiri hills.
21. The fauna of an island in the Chilka lake—Dragonflies.
22. A list of the Dragonflies recorded from the Indian Empire with special reference to ths collection of the Indian Museum. Part V. The Subfamily Gomphinae.
23. Some oriental Ascalaphidae in the Indian Museum.
24. Records of the Indian Museum (Sep. 24).
25. Report on a collection of Dragonflies (Odonata) from the Andaman Islands.
26. The true position of t e Genera Orogomphus and Chlorogomphus.
27. A revision of the Genus Idionyx Selys.

28. Descriptions of twenty new Indian Dragonflies.
29. Additions to the Survey of the Odonata (Dragonfly) Fauna of Western India, with descriptions of nine new species by F. C. Fraser.
30. A revision of the Genus Orolestes (order Odonata),
31. Neuropteroid insects of the Philipine islands (1916).
32. A Survey of the Odonata (Dragonfly) Fauna of Western India with special remarks on the Genera, Macromia and Idionyx and descriptions of thirty new species.
33. Insects of Samou.
34. Two new Dragonflies (order Odonata).
35. Catalogue of Indian Insects by T. Bainbrigge Fletcher.
36. Notes on Indian Odonata in the Pusa collections.
37. A second note on Odonata in the Pusa collection.
38. Odonata of the African Continent.
39. Notes on a collection of Dragonflies (order Odonata) from the Dutch East India and descriptions of Four new species from the Neighbouring Continent.
40. A preliminary Report on the Dragonflies.
41. A Note on Kallimia. the leaf butterfly.

Notifications relating to Rangers.

16—6—34. The following Rangers who were promoted in permanent vacancies on a temporary basis, are confirmed in their present appointments with effect from *the 13th April 1933.*

I Grade.

1. Khan Sahib K. Kunhirayan. 2. M. Pakyanathan (temporarily reduced to the Second grade for 3 months from 17-11-1933).

II Grade.

1. S. Ramachandra Ayyar. 2. Antony Culas. 3. P. Duraiswami Ayyar. 4. K. Karunakaran Nambiar. 5. Thomas Thachil. 6. Henry Mac Bride.

III Grade.

1. Dhananjaya Rao. 2. P. S. Varadakrishnamacharya. 3. K. M. Gopalacharya (without prejudice to the Conservator's orders reducing him to the Fourth grade from 17-7-1933). 4. T. D. Ponnayya. 5. K. P. Chathu Nayar. 6. C. T. Tiruvengadam. 7. T. M. Duraiswami Pillai. 8. M. R. Duraiswami Ayyar.

IV Grade.

1. K Shankaranarayana Rao. 2. S. G. Venkataramanan. 3. S. Rangaswami Ayyangar. 4. B. H. Anandathirtha Rao. 5. G. Appa Rao Nayudu. 6. S. A. Dawson. 7 S. M. Srinivasagam Pillai. 8. M. Rama Rao Kini. 9. P. A. Venkataraman. 10. A. Surya Rao Nayudu. 11. T. Venkatasubbayya.

V Grade.

1. A. Muthukrishnan. 2. M. Subba Rao. 3. K. Jayarama Ayyar. 4. A. N. Ponnayya. 5. Abdul Rahim Khan. 6. J. D. Theodore. 7. S. V. Duraiswami. 8. M. Umapathi Mudaliyar. 9. D. Krishnaswamayya. 10. A. Sitharamayya. 11. C. S. Ganapathi.

VI Grade.

1. Abdul Khalak Sheriff. 2. M. S. Krishnaswami Ayyar. 3. B. Kotilingam. 4. M. M. Mandanna. 5. M. V. Ganesan. 6. P. A. Madhavan. 7. N. Ayyanna. 8. J. S. Vedanayagam (without prejudice to the Conservator's orders reducing him to the Seventh grade for 6 months from 21-3-1933). 9. P. Madhavan Nayar. 10. S. Narayanaswami Ayyar. 11. T. K. Parthasarathy Ayyangar. 12. I. John (without prejudice to the Conservator's orders reducing him to the Seventh grade from 26-7-1933). 13. T. S. Sankaranarayana Ayyar. 14. S. Nageswara Ayyar. 15. A. Tirupathi Rayadu.

VII Grade.

1. A. Subrahmaniyam. 2. A. Arogyaswami Pillai (Since reduced as Forester First grade from 7–6–1933). 3. P. K. Subbanarayana Ayyar (Placed at the bottom of the Seventh grade from 29–5–1933). 4. S. Venkatarama Ayyar. 5. V. N. Leapingwell. 6. Y. Vaidyanathan. 7. R. Rama Ayyar. 8. P. Gopalakrishna Rao. 9. K. Puvappa. 10. A. Niladri Rao. 11. C. H. Ramamurti. 12. A. Sitharama Sarma. 13. S. M. Ansur Ali. 14. T. N. Vedantaramanujam.

Waltair Circle.

17—4—34. Mr. Y. V. Anjaneyulu, Forester First Grade (M. R. H.) will continue to act as Ranger Seventh grade from 29–1–34 to 4–6–1934 *vice* Ranger P. S. Varadakrishnamachari, Ranger Third grade, on leave.

23—4—34. T. Venkataramiah, Forester, Second grade, promoted to act as Ranger, Seventh grade from 18–2–1934 *vice* Mr. C. S. Ganapathy, Ranger Fifth grade, granted leave for 3 months.

4—5—34. Mr. G. Rama Rao, transferred to Bontha Range. 2. Mr. M. A. H. Kririmani transferred from Bontha to Mojjagoda Range. He should hand over to Range Officer, Kukuluba and then take over Mojjagoda Range from Mr. Rama Rao. 3. Mr. M. Narasinga Rao Naidu, Ranger Fifth grade transferred from Marrigudem to Bhadrachalam Range. He should hand over charge of Marrigudem to Range Officer, Pulusumamidi, and then take over Bhadrachalam Range. 4. Mr. P. Dhananjaya Rao, Ranger Third grade, from Bhadrajalam to Marrigudem Range.

5—5—34. Mr. V. Rangachari, Repalle Range, on relief by Mr. P. Venkataramany, Assistant Conservator of Forests, posted to Sathiavedu Range in relief of Mr. C, S. King, granted leave. 2. Mr. C. S. King, granted leave for 4 months from date of relief.

5—5—34. Mr. Y. V. Anjaneyulu Naidu, on special duty, Parlakimidi Maliahs, posted to Surada Range, Ganjam Division. 2. Mr. P. Gopalakrishna Rao, Surada Range, on relief by No. 1 posted to Gokavaram Range, Godavari Lower Division and will relieve Mr. P. Venkataramany, Assistant Conservator of Forests.

13—5—34. Mr. I. Sambasiva Rao, Ranger, granted leave on average pay for 3 months from 6–4–34. 2. T. Naganna, Forester Second grade, Nugur Range, promoted to act as Ranger Fifth grade (New scale) from 21–4–1934 *vice* No. 1 on leave.

17—5—34. Ranger B. Kotilingam placed on special duty for one month from date of relief under Mr. N. S. Ghate for Working Plan duty. On relief by Forester P. Venkatasubbiah he should report himself for duty before Mr. Ghate at Narasapatam. 2. Forester P. Venkatasubbiah should relieve Ranger B. Koti-

lingam and be in charge of Gudem Agency Range until the rejoining of Ranger B. Kotilingam.

18—5—34. Abdul Razaack Sahib, on return from leave posted to Mahendra Range in Parlakimidi Maliahs Division. 2. Mr. A. Neeladri Rao, on relief by Mr. Abdul Razaack will be attached to Parlakimidi Maliahs Division on special duty.

19—5—34. The extension of L. A. P. for two months from 3–3–34 granted to Mr. I. John, is further extended by two months from 3–5–1934. 2. Mr. V. Rangachari, Forester First grade, M. R. H., will continue to act as Ranger Seventh grade from 3–5–34 to date of relief, *vice* No. 1 on leave.

1—6—34. Mr. N. Chakrapani Iyengar, Kukuluba Range, Ganjam District, granted leave for 4 months from 15th July 1934. 2. Mr. I. Sambasivarao Naidu, on the expiry of the 3 months' leave posted to Kukuluba Range, in relief of No. 1.

10—7—34. Mr. P. Gopalan, Ranger Seventh Grade, granted extension of leave for two months with effect from 1st July 1934.

11—7—34. Mr. Y. V. Anjaneyulu, Forester First grade (M. R. H.) will continue to act as Ranger, Seventh grade from 5–6–1934 until further orders *vice* Mr. P. S. Varadakrishnamachari, Ranger, Third grade, on leave preparatory to retirement.

11—7—34. Mr. M. A. H. Kirimani Sahib, Ranger Fourth grade, Bontha Range granted leave for twenty months and twenty four days from 26–11–1934 to 19–8–1936 inclusive preparatory to retirement.

11—7—34. 1. Mr. I. Sambasivarao Naidu, on expiry of his leave on 6–8–1934, posted to Russellkonda Range, Ganjam Division. (This cancels his posting to Kukuluba Range). 2. Mr. A. Suryarao Naidu, Russellkonda Range, on relief by No. 1, posted to Mojjagoda Range. 3. Mr. G. Rama Rao, Mojjagoda Range on relief by No. 2, posted to Bontha Range *vice* Ranger M. A. H. Kirimani Saheb applied for leave preparatory to retirement. 4. Mr. A. Neeladri Rao, on special duty in Parlakimidi division, posted to Kukuluba Range *vice* Ranger N. Chakrapani Iyengar granted leave. 5. A. S. Kaunds, Forester Second grade, M. R. H., (1934) posted to Udayagiri Range of Balliguda. (This cancels his posting to Kukuluba Range).

12—7—34. Mr. A. S. Kaunds, Forester, Second grade, posted to Ganjam Division, should relieve Ranger Mr. N. Chakrapani Iyengar and remain in charge of Kukuluba Range until relieved by Ranger Mr. I. Sambasivarao Naidu.

23—7—34. Mr. Abdul Razack, Forester First grade, (M. R. H.), promoted to act as Ranger Seventh grade from 16–7–1934 *vice* Ranger I. John transferred from this Circle.

Bellary Circle.

22—4—34. Mr. T. Venkatasubbiah, Cuddapah North on return from leave (22-4-34) posted to Bukkapatnam Range, Anantapur Dn. 2. Mr. B. T. Seetharama Ayyar, Dhone, Kurnool West, granted leave on medical certificate for 3 months from date of relief. 3. Mr. B. Krishna Rao, Bukkapatnam Range, Anantapur Division on relief by No. 1 posted to Dhone Range to relieve No. 2.

3—5—34. Mr. T. K. Ramaswami Ayyar, Ranger Second grade posted to Markapur Range, Kurnool East Division. 2. Mr. A. Vyasulu, Ranger Sixth grade on relief by No. 1 transferred to Vonipenta Range, Cuddapah North Division. 3. Mr. S. Varadarajulu Reddy, Forester First grade and acting Ranger Seventh grade, on relief by No. 2 reverted to his permanent post of Forester in Kurnool East Division.

7—6—34. Mr. G. Devanayagam Nayndu, Cuddapah South granted extension of leave for one month and fifteen days from 10th June 1934.

20—6—34. Mr. V. N. Snbrahmanya Ayyar, Sidhout Range, Cuddapah North, transferred to Chelama Range, Kurnool South. 2. Mr. D. N. Subrahmanya Ayyar, Chelama Range, on relief by No. 1 transferred to Sidhout Range, Cuddapah North.

3—7—34. Mr. A. Rahim Knan, Cuddapah North Dn. granted extension of leave for eight weeks from 26th June 1934.

17—7—34. Mr. G. Devanayagam Nayudu, Cuddapah South Division on return from leave on 25-7-34 reposted to Rajampet Range in the same division. 2. Mr. N. C. Mahadevan Pillai, Rajampet Range, Cuddapah South Division, on relief by No. 1 posted to Sanipaya Range in the same division. 3. Mr. S. Rangamannar Doss acting Ranger Sanipaya Range, on relief by No. 3 will proceed on transfer to Salem Circle.

28—7—34. Mr. S. Sankaran, Yerragondapalem Range, Kurnool East Division transferred to Markapur Range. 2. Mr. T. K. Ramaswami Ayyar, on relief by No. 1 transferred to Yerragondapalem Range.

Working Plans Circle.

28—6—34. Mr. V. N. Parthasarathy M. R. H. trained forester and acting Ranger Seventh grade transferred to this Circle posted to the No. II Working Plans Division (Cuddapah).

5—7—34. Mr. A. N. Ponniah, Ranger Fifth grade, Provincial Silviculturist's Division, granted leave for 3 months from 8-6-1934.

3—8—33. Mr. K. Raghavan, Ranger Sixth grade, granted leave on average pay for 10 days from 6th to 15th August 1934 with permission to avail of Sunday on 5th August 1934.

Salem Circle.

21—4—34. Mr. E. W. Fernandez, Ranger Fourth grade, on return from leave on 27-4-1934, posted to the charge of the sale depot, Tirupattur, Vellore West Division, *vice* Mr. K. M. Gopalachariar proceeding on leave.

17—5—34. 1. Mr. S. M. Srinivasagam Pillai, Krishnagiri Range, Vellore West granted leave for four months with effect from 14-5-1934. 2. Mr. M. Pakiyanathan, Anchetti Range, Salem North, posted to Krishnagiri Range, *vice* No. 1. 3. Mr. P. K. Subbanarayana Ayyar, Special duty, Salem North, posted to Anchetty Range, *vice* No. 2.

18—5—34. Mr. P. Shunmugasundaram Pillai, Trained Forester First grade will continue to act as Ranger Seventh grade from 27-4-1934, *vice* Mr. H. E. Mac Bride, Ranger Second grade, Temporary, granted leave.

3—6—34. Mr. S. A. Dawson, Shevaroys South Range granted leave on average pay for three months with effect from date of relief. 2. Mr. P. B. Syed Yahia Saheb, Valappadi Range to be in additional charge of Shevaroys South Range, *vice* No. 1, until further orders.

6—6—34. Mr. B. S. Ramaswami Ayyar, on return from leave posted to Shevaroys South Range, *vice* Mr. S. A. Dawson, granted leave relieving P. B. Syed Yahia Saheb, now in additional charge of Shevaroys South Range.

13—6—34. 1. Mr. P. B. Syed Yahia, from Valappadi to Harur Range. 2. Mr. M. Muthuswami Ayyar, from Harur to Cauveri Range. 3. Mr. R. Thangavelu Pillai, from Cauveri Range to Valappadi Range. No. 1 above will move first as expeditiously as possible after handing over to Mr. B. S. Ramaswami Ayyar, Ranger, Shevaroys South, who will be in additional charge of Valappadi Range till he is relieved of the additional charge by No. 3. Nos. 2 and 3 should similarly proceed to their new stations as expeditiously as possible.

15—6—34. Mr. K. M. Gopalachariar, Ranger Fourth grade, granted extension of leave on average pay without medical certificate for two months.

26—6—34. Mr. S. Rengamannar Doss, posted to Salem North Division for the enumeration of sandalwood trees in patta lands.

Coimbatore Circle.

26—4—34. Mr. P. A. Venkataraman, Coimbatore South granted extension of leave for one month from 3-5-34 in continuation of the 4 months' leave granted.

28—4—34. Mr. S. Sundaravaradachari, posted to Mettupalayam Range. 2. On relief by No. 1 Mr. M. Gopalaswamy Naidu, will revert as Forester.

1—5—34. 1. Mr. C. R. Raghunathan, from Udamalpet to Ulandi Range. To hand over charge to Range Officer, Pallachi at Anamalai Farm on 20-5-1934 and relieve No. 2 on 28-5-1934. 2. Mr. S. Venkatarama Ayyar, from Ulandi to Udamalpet Range, on relief by No. 1. To take charge from Range Officer, Pollachi on 4-6-1934 and then proceed to Udamalpet.

18—5—34. Mr. A. R. Manuels, on Special duty in Tinnevelly Division posted for Special duty under Mr. Said-ud-din Ahmed Sahib, Extra Assistant Conservator of Forests, Tanjore District.

25—5—34. Mr. I. John, posted to Palni Range in Madura Division.

20—7—34. 1. Mr. C. Tiruvengadam Pillay, Punachi Range, leave for two months with effect from date of relief. 2. Mr. U. Vridachalam Pillai to relieve No. 1.

Ootacamund Circle.

13—6—34. Mr. A. Mohamed Akbar, Acting Ranger, Seventh grade Temporary, Amarampalam, Nilambur division, granted leave for four months from 4th June 1934.

7—7—34. Mr. P. A. Madhavan, Mudumalai Range, granted leave for three months from 10th July 1934. 2. Mr. Thomas Thachil, is attached to Mudumalai Range until 10th July 1934, and then posted to charge of the same range *vice* No. 1.

1—8—34. Mr. K. P. Chathu Nair, on Boundary Verification work, granted leave for one month from 16—7—1934 forenoon.

1—8—34. Mr. M. M. Mandanna, on expiry of his leave on 8th August 1934, posted to Nilambur division for special duty.

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